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| | B | 3,704,465 | 11/28/72 | Masak et al | l . | | - | | | | | | | |
| | | 3,774,209 | 11/20/73 | Fleming et | al. | | 1. | 0. | | | | | | |
| · | | 3,798,645 | 03/19/74 | Baurle et a | l . | | | 3. | CEI | | | | | |
| Ğ G | | 3,852,749 | 12/03/74 | Kohler | | | Tec | AUG | 302 | | | | | |
| | | 3,946,385 | 03/23/76 | Ewen | | | | AUG E | Poto | | | | | |
| \ \ ! | | 4,005,379 | 01/25/77 | Lerner | | | | | ,67 | | | | | |
| Best Available | · | 4,035,746 | 07/12/77 | Covington | Jr. | | 1. 1 | | | | | | | |
| 3 | | 4,085,319 | 04/18/78 | Deitz et al. | . | | | | | | | | | |
| 5 | | 4,128,740 | 12/05/78 | Graziano | | | | | | | | | | |
|) | | 4,263,568 | 04/21/81 | Nemit | | \prod | | | | | | | | |
| | V | 4,316,191 | 02/16/82 | Sawatari et | al. | 1 | 1 1 | | - | | | | | |
| | | | FOREIG | N PATENT C | OCUMENTS | | | | | | | | | |
| | 05 | DOCUMENT NUMBER | R DATE | C | DUNTRY · | CLASS | SUBCLASS | TRANSL | NO | | | | | |
| | 06 | 2 237 70 | 6 A 5/8/91 | United King | jdom | <u> </u> | | | | | | | | |
| | | 2 295 52 | 4 A 5/29/96 | United King | gdom | | - | | | | | | | |
| | .05 | 2 313 26 | 1 A 11/19/97 | United King | jdom | · | | | | | | | | |
| | OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | | | | | | | | | | | | |
| | | | <u></u> | | | | | | | | | | | |
| | Ø | Agee, "Blind Sepa Constant Modulus Vol. 2, pp. 1-12. | aration and Ca s Beamformer | apture of Co 2', 10/7/89 Pr | mmunication Sig oc. IEEE Military | nals Us Commu | ing A Mult inications | itarget Confer | ence, | | | | | |
| | 0 | Aschied et al., "Al at High Data Rate 804-813. | | | | | | | | | | | | |
| | EXAMIN | ER TVA- | EXAMINER DATE CONSIDERED | | | | | | | | | | | |

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| *EXAMINER INITIAL | DOCUMENT NUMBER | . DATE | | NAME | c | LASS | SUBC | LASS | | OPRIATE |
| 05 | 4,375,622 | 03/01/83 | Hollingswo | orth et al. | _ | | | | | |
| 1 | 4,434,505 | 02/28/84 | Gutleber | | | | ١, | 1 | | · |
| | 4,475,010 | 10/02/84 | Huensch e | t al. | | | | | | |
| | 4,626,859 | 12/02/86 | Stansfield | | | | | | | |
| | 4,639,732 | 01/27/87 | Acoraci et | al. | 1 | | | 17 | ECE | IVE(|
| | 4,639,914 | 01/27/87 | Winters | | | | 7. | AL | G 3 (| 2001 |
| | 4,658,096 | 04/14/87 | West, Jr. e | t al. | | | 100 | nnoi | ogy _{Ce} | nter 26 |
| | 4,737,794 | 04/12/88 | Jones | | <u> </u> | | Ш | | | |
| | 4,737,975 | 04/12/88 | Shafer | | | | | | | |
| | 4,742,356 | 05/03/88 | Kuipers | | | | | | | |
| $\sqrt{}$ | 4,750,147 | 06/07/88 | Roy, III et a | ı l. | | 1 | | | | |
| | | FOREIG | N PATENT (| OCUMENTS | | | | | | |
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| 80 | 0 639 035 A1 | 2/15/95 | EPO | | - | | - |) | _ | |
| | 0 713 261 A1 | 5/22/96 | EPO | | | | | , | | |
| 8 | 0 777 400 A2 | 6/4/97 | EPO | | | | | _ | | |
| | OTHER DOCUME | NTS (Inclu | ding Author, | Title, Date, Pertine | ent F | Pages | , Etc. |) · | | |
| 0 | Franks, "Synchroniza Communications Sat | | | | | | Digit | al · | | |
| % | Friedlander, "Direction Conference on Acous | | | | | | | | | |
| 05 | Friedlander et al., "DI 1991, IEEE Publicatio | rection Fi n, pp. 583 | nding for Wi -587. | deband Signals (| Usin | g an | Inter | pola | ted An | ray", |
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| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | | NAME . | αJ | NSS | suacı | ASS | FILING (F APPRO | DATE OPRIATE |
| 00 | | 4,775,997 | 10/04/88 | West Jr. et | al. | | _ | - | | | |
| ì | | 4,796,291 | 01/03/89 | Makino | | ı | | | i l | | |
| | | 4,827,395 | 05/02/89 | Anders et a | ıl. | | | | | | |
| | | 4,829,554 | 05/09/89 | Barnes et a | i i. | | | | | | |
| | | 4,837,800 | 06/06/89 | Freeburg e | t al. | | | | 74 | CEI | VE2 |
| | | 4,855,748 | 08/08/89 | Brandao et | al. | | | ech | | | |
| | | 4,910,794 | 03/20/90 | Mahany | | ll | | "" | 109) | Center | |
| | | 4,922,517 | 05/01/90 | West, Jr. et | al. | | | | | 302 Center | <600 |
| | | 4,926,186 | 05/15/90 | Kelly et al. | | | | | | | |
| | | 4,940,963 | 07/10/90 | Gutman et | al. | | | | | | |
| V | | 4,947,452 | 08/07/90 | Hattori et a | l. | 7 | | | , | | |
| | | | FOREIG | N PATENT C | OCUMENTS | | | | | | |
| | | DOCUMENT NUMBER | DATE | C | DUNTRY | CLA | uss | SUBC | ASS | YES | ATION NO |
| B | | 95/34103 | 12/14/95 | wo | | _ | | | _ | | |
| B | | 98/01963 | 1/15/98 | wo | | | | ∤ - | _ | | |
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| | (| THER DOCUME | NTS (Inclu | ding Author, | Title, Date, Pertine | nt Pa | ages | , Etc.) |) | | |
| 0 | | | | | nal Technique for No. 9, 9/1989, pp. | | | | ys", | , IEEE | |
| 0 | | | | | eceiver With Joir nlcations, Vol. 39 | | | | | | |
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| EXAMINER INITIAL | DOCUMENT NUMBER | DATE | | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
| 05 | 4,955,082 | 09/04/90 | Hattori et a | l. | | | |
| | 4,965,732 | 10/23/90 | Roy, III et a | 1. | | | |
| | 4,965,849 | 10/23/90 | Kunihiro | | | | |
| | 4,965,850 | 10/23/90 | Schloemer | | | | . 15 |
| | 4,972,151 | 11/20/90 | Rosen | | | | RECEIVE |
| | 4,989,204 | 01/29/91 | Shimizu et | al. | | T | AUG 3 0 |
| | 5,041,833 | 08/20/91 | Weinberg | | \prod | 17. | echnology Ce |
| | 5,052,799 | 10/01/91 | Sasser et a | l. | | | |
| | 5,093,924 | 03/03/92 | Toshiyuki | et al. | | | |
| | 5,103,459 | 04/07/92 | Gilhousen | et al. | | | |
| \bigvee | 5,109,535 | 04/28/92 | Kume et al | • | 1 | | |
| | | FOREIG | N PATENT C | OCUMENTS | | | |
| | DOCUMENT NUMBER | DATE | C | DUNTRY | CLASS | SUBCLASS | TRANSLATION YES NO |
| Ø | 98/17071 | 4/23/98 | wo | | _ | | |
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| | | | | | • | | |
| - | OTHER DOCUME | NTS (Inclu | ding Author, | Title, Date, Pertine | nt Page | s, Etc.) | |
| | ee et al., " Decision Digital Communication | | | | | | '' , 1994 |
| | Lee et al., " Decision Digital Communication | | | | | | ı", 1994 |
| | undell et al., "Appli and Non-Constant M Signals, Systems, an | odulus Sig | jnals", Proce ers (ACSSC- | edings, 1998 Asi 1988), pp. 432-43 | lomar C 6. | | |
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| EXAMINER INITIAL | - DOCÜMENT NUMBER | DATE | | NAME | CLASS | SUBCLASS | FILING IF APPR | DATE OPRIATE |
| 100 | 5,124,697 | 06/23/92 | Moore | | - | | | |
| | 5,142,253 | 08/25/92 | Mallavarpu | et al. | (| ſ | RE | ٠ |
| | 5,159,593 | 10/27/92 | D'Amico et | : al. | | 11 | REI AUG | -E/ |
| | 5,255,210 | 10/19/93 | Gardner et | al. | 11 | 70 | AUG | 3 0 Z |
| | 5,260,968 | 11/09/93 | Gardner et | al. | | ' | Chnology | Cente |
| | 5,262,789 | 11/16/93 | Silverstein | | 11 | | | |
| | 5,274,844 | 12/28/93 | Harrison et | al. | | | | |
| • | 5,283,540 | 02/01/94 | Myer | | | | | |
| | 5,299,148 | 03/29/94 | Gardner et | al. | | 1 1 | 1 | - |
| | 5,335,249 | 08/02/94 | Krueger et | al. | | | | |
| | 5,345,596 | 09/06/94 | Buchenhor | ner et al. | | 11 | | - |
| | • | FOREIG | ON PATENT D | OCUMENTS | | | | • |
| | DOCUMENT NUMBER | DATE | C | OUNTRY | CLASS | SUBCLASS | TRANSI YES | NO |
| 05 | 7-170548 | 4/7/95 | Japan | | _ | | | х |
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| | OTHER DOCUME | NTS (Inclu | ding Author, | Title, Date, Pert | inent Page | es, Etc.) | | |
| | Mühamed et al., "Dire Bradley Dept. of Elec Section 3.8, pp. 64-71 | trical Eng | | | | | | |
| Ø | vander Veen et al., "A Applications in Mobil Algorithms, Architec | le Commu tures, and | nications", S Implementa | SPIE 1994 "Adv tions V", Vol. 2 | vanced Sig 2296, pp. 2 | gnal Proc 230-241. | essing | |
| | Talwar et al., "Recurs Received at an Anten Applications Confere | ina Array" | | | | | | als |
| EXAMINE | | | DA | TE CONSIDER | | c | - | · · · · · |
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| *EXAMINER INITIAL | DOCUMENT NUMBER | OATE | | NAME | CLASS | SUBCLASS | FILING IF APPRI | DATE OPRIATE |
| Ø | 5,361,303 | 11/01/94 | Eatwell | | | | | |
| | 5,367,559 | 11/22/94 | Kay et al. | _ | | | | |
| | 5,379,320 | 01/03/95 | Fernandes | et al. | | | | |
| | 5,387,915 | 02/07/95 | Moussa et | al. | | | | i . |
| | 5,423,072 | 06/06/95 | lwashita et | al. | | REC | EIVE | ED |
| | 5,430,760 | 07/04/95 | Dent | | | L duc | 212 | 2001 |
| | 5,440,281 | 08/08/95 | Wey et al. | | | 100 | ay Cer | nter 2600 |
| | 5,448,621 | 09/05/95 | Knudsen | | | Technor | 73, | |
| | 5,457,812 | 10/10/95 | Siira et al. | | | | | |
| | 5,465,399 | 11/07/95 | Oberholtze | r et al. | | | | |
| | 5,471,647 | 11/28/95 | Gerlach et | al. | | 1 | | |
| | | FOREIG | ON PATENT (| OCUMENTS | | | | |
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| | • | | · | | | | | |
| | OTHER DOCUME | NTS (Inclu | ding Author, | Title, Date, Pertir | nent Page: | s, Etc.) | | |
| | padias et al., "A S oceedings, IEEE 4 | | | | | | ns", 19 | 96, |
| An | war et al., "Blind I tenna Array", 199 mputers, Vol. 1, p | 3, Proc. 27 | th Asilomar | | | | | |
| d in 555 | shid-Farrokhi et a Wireless Networks 5-559. | | enna Array", | 1996 IEEE GLO | BECOM 1 | | | ment |
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| | | U.S. | PATENT DO | CUMENTS | | | |
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| 00 | 5,475,864 | 12/12/95 | Hamabe | | | | |
| | 5,475,868 | 12/12/95 | Duque-Ant | on et al. | 1 | 1 | |
| | 5,497,505 | 03/05/96 | Koohgoli e | t al. | | | |
| | 5,515,378 | 05/07/96 | Roy, III et a | l | | | |
| | 5,530,449 | 06/25/96 | Wachs et a | 1, | | | RECEIVE AUG 3 O Technology |
| | 5,530,917 | 06/25/96 | Andersson | et al. | | | CEIVE |
| | 5,532,706 | 07/02/96 | Reinhardt (| et al. | | | REU 30 |
| | 5,537,438 | 06/16/96 | Mourot et a | il. | | | HIP P |
| | 5,543,801 | 08/06/96 | Shawyer | | | | Technois |
| | 5,546,090 | 08/13/96 | Roy, III et a | | | 1.) | |
| | 5,548,813 | 08/20/96 | Charas et a | 1 1. | | $\bot \downarrow$ | |
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| | OTHER DOCUME | NTS (Inclu | ding Author, | Title, Date, Perti | inent Pages | s, Etc.) | |
| Ras | hid-Farrokhi et a | I., "Transm | nit Beamform | ing for Cellula | r Commun | ication Sv | /stems". |
| Con | iference on Infor | nation Sci | ences and S | ystems, CISS-9 | 9 7; 3/1997, | 4 pages. | |
| | hid-Farrokhi et a ular Systems", P | | | | | | |
| | ', pp. 647-651. | . 5000amy | -, | | | | onoe, vol. 2, |
| | hid-Farrokhi et a nmunications Let | | | | Station A | ssignmen | t", IEEE |

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| 8 | 5,555,445 | 09/10/96 | Booth | | - | - | | | | |
| 1 | 5,557,657 | 09/17/96 | Barnett | | 1 | _ | , | | | |
| | 5,565,873 | 10/15/96 | Dean | | | | T | | | |
| | 5,566,209 | 10/15/96 | Forssen et | al. | 1 | \top | 1 | R | ECE | 11/5 |
| | 5,576,717 | 11/19/96 | Searle et al | | | | | ł | | |
| 7, 1 | 5,592,490 | 01/07/97 | Barratt et a | l. | | | | | ne 3 | ľ |
| | 5,596,625 | 01/21/97 | LeBlanc | | | | | | ology C | enter 2 |
| | 5,603,082 | 02/11/97 | Hamabe | | | | 1 | | | |
| | 5,603,089 | 02/11/97 | Searle et al | | | | I_{-} | | | |
| | 5,606,729 | 02/25/97 | D'Amico et | al. | | | | | - | |
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| | OTHER DOCUME | NTS (Inclu | ding Author, | Title, Date, Perti | nent Pag | jes, Etc | .) | | | |
| Ra | shid-Farrokhi et a | l., "Transm | it Diversity a | nd Equalizatio | n for Po | wer Co | ntro | led W | ireless | |
| | tworks", Conferent Imputers, Vol. 1, 1 | | | ar Conference | on Sign | als, Sy | stem | s, and | | |
| | | | | | | · | | · | | |
| | | | • | | | | | | | |
| | vidlehurst et al., "A gnal Processing, V | | | | ormer", | IEEE T | ransa | actions | s on | |
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| 5,615,409 03/25/97 Forssen et al. 5,621,752 04/15/97 Antonio et al. 5,625,885 04/29/97 Nakazawa et al. 5,638,375 06/10/97 Dettro et al. 5,649,287 07/15/97 Forssen et al. 5,649,287 07/15/97 Forssen et al. 5,673,291 09/30/97 Dent 5,675,581 10/7/97 Soliman 5,678,188 10/14/97 Hisamura 7,684,836 11/04/97 Nagayasu et al. 5,689,219 11/18/97 Piirainen 7,689,502 11/18/97 Scott FOREIGN PATENT DOCUMENTS | DOCUMENT NUMBER DATE NAME CLASS SUBCLASS FAMILICANT FAMILIA DATE CLASS SUBCLASS FAMILIA DATE FAMILIA DATE FAMILIA DATE CLASS SUBCLASS FAMILIA DATE FAMILIA DATE CLASS SUBCLASS TRANSLATION YES NO | | | U.S. | PATENT DO | CUMENTS | | | |
| 5,621,752 04/15/97 Antonio et al. 5,625,885 04/29/97 Nakazawa et al. 5,638,375 06/10/97 Dettro et al. 5,649,287 07/15/97 Forssen et al. 5,673,291 09/30/97 Dent 5,675,581 10/7/97 Soliman 5,678,188 10/14/97 Hisamura 7,684,836 11/04/97 Nagayasu et al. 5,689,219 11/18/97 Piirainen 7,689,502 11/18/97 Scott FOREIGN PATENT DOCUMENTS | 5,621,752 04/15/97 Antonio et al. | | OOCUMENT NUMBER | DATE | | NAME | CLASS | SUBCLASS | |
| 5,625,885 04/29/97 Nakazawa et al. 5,638,375 D6/10/97 Dettro et al. 5,649,287 07/15/97 Forssen et al. 5,673,291 09/30/97 Dent 5,675,581 10/7/97 Soliman 5,678,188 10/14/97 Hisamura 7,684,836 11/04/97 Nagayasu et al. 5,689,219 11/18/97 Piirainen FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSLATION | 5,625,885 04/29/97 Nakazawa et al. | D | 5,615,409 | 03/25/97 | Forssen et | al. | | _ | |
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| | OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | | | | | | | |
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| | | D us | 98/25364, PCT Sea | arch Repoi | rt, 05/11/99. | | | | |
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| APPLICANT Roger Rogard Filing Date GROUP GRO | SURE CITATION FILING DATE 09/29/00 2681 U.S. PATENT DOCUMENTS DATE NAME CLASS SUBCLASS FILING DATE FAPPROPRIATE 12/02/97 Johnson 03/10/98 Frodigh et al. 04/21/98 Pinder et al. 04/28/98 Sato et al. 05/12/98 Hokkanen 09/15/98 Matsuoka et al. FOREIGN PATENT DOCUMENTS DATE COUNTRY CLASS SUBCLASS FRANSIATION TRANSIATION | | 449 Aug. 3 8 2001 | PATENT AND TI | NT OF COMMERCE RADEMARK OFFICE | | 031 | SERIAL NO. | |
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| 5,726,978 03/10/98 Frodigh et al. 5,742,904 04/21/98 Pinder et al. 5,745,858 04/28/98 Sato et al. 7echnology 5,752,165 05/12/98 Hokkanen 5,809,009 09/15/98 Matsuoka et al. FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSL | 03/10/98 Frodigh et al. 04/21/98 Pinder et al. 04/28/98 Sato et al. 05/12/98 Hokkanen 09/15/98 Matsuoka et al. FOREIGN PATENT DOCUMENTS DATE COUNTRY CLASS SUBCLASS TRANSLATION | | DOCUMENT NUMBER | DATE | | NAME | CLASS | SUBCLASS | |
| 5,742,904 04/21/98 Pinder et al. 5,745,858 04/28/98 Sato et al. 760 100/09/99 5,752,165 05/12/98 Hokkanen 5,809,009 09/15/98 Matsuoka et al. FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSL | 04/21/98 Pinder et al. 04/28/98 Sato et al. 05/12/98 Hokkanen 09/15/98 Matsuoka et al. 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DATE COUNTRY CLASS SUBCLASS TRANSLATION | 0 | 5,694,416 | 12/02/97 | Johnson | • | | _ | |
| 5,809,009 09/15/98 Matsuoka et al. 5,809,019 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSL | 09/15/98 Matsuoka et al. 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DATE COUNTRY CLASS SUBCLASS TRANSLATION | 05 | 5,726,978 | 03/10/98 | Frodigh et | al. | | | |
| 5,809,009 09/15/98 Matsuoka et al. 5,809,019 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSL | 09/15/98 Matsuoka et al. 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DATE COUNTRY CLASS SUBCLASS TRANSLATION | 6 | 5,742,904 | 04/21/98 | Pinder et a | <u>. </u> | _ | | Dr. |
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| 5,809,009 09/15/98 Matsuoka et al. 5,809,019 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSL | 09/15/98 Matsuoka et al. 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DATE COUNTRY CLASS SUBCLASS TRANSLATION | -V | | | | | | Ter | 106302 |
| 5,809,009 09/15/98 Matsuoka et al. 5,809,019 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSL | 09/15/98 Matsuoka et al. 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DATE COUNTRY CLASS SUBCLASS TRANSLATION | 00 | 5,752,165 | 05/12/98 | Hokkanen | | | | Welogy Cente |
| 5,809,019 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS TRANSL | 09/15/98 Ichihara et al. FOREIGN PATENT DOCUMENTS DATE COUNTRY CLASS SUBCLASS TRANSLATION | | | | | | | | |
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| XAMINER INITIAL | DOCUMENT NUMBER | DATE | | NAME - | ĆLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
| 0 | 5,818,918 | 10/06/98 | Fujii | | | . — | |
| | 5,819,182 | 10/06/98 | Gardner et | al. | (| i | |
| | 5,825,762 | 10/20/98 | Kamin, Jr. | et al. | | | |
| | 5,828,658 | 10/27/98 | Ottersten e | t al. | | | |
| | 5,845,212 | 12/01/98 | Tanaka | | | | |
| | 5,867,123 | 02/02/99 | Geyh et al. | | 17 | | RECEIVE |
| | 5,884,148 | 03/16/99 | Bilgic et al. | | | | AUG 3 0 200 |
| | 5,887,038 | 03/23/99 | Golden | | | 1 | hnology Center |
| | 5,905,721 | 05/18/99 | Liu et al. | | | 1 10 | annowy being |
| | 5,909,470 | 06/01/99 | Barratt et a | 1. | | | |
| | 5,914,946 | 06/22/99 | Avidor et a | l | • | | · |
| | | FOREIG | IN PATENT. D | OCUMENTS | • | | |
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| INITIAL | DOCOMENT NUMBER | DATE | | NAME | CLAS | | SUBCL | ASS | | OPRIATE |
| 00 | 5,930,243 | 07/27/99 | Parish et a | l . | <u> </u> | | | | | |
| | | <u> </u> | | | <u> </u> | <u> </u> | | | | |
| - | 5,955,992 | 09/21/99 | Shattil | | | | | | | |
| | 5,970,394 | 10/19/99 | Arpee et al | • | | | | | | |
| | 5,973,638 | 10/26/99 | Robbins et | al. | | | R | Ę | EIV | FD |
| .) | 5,999,826 | 12/07/99 | Whinnett | | П | | | 1 | 3-0-21 | |
| | 6,005,854 | 12/21/99 | Xu et al. | | 17 | - | . 0.% | | , | , , , |
| | 6,009,124 | 12/28/99 | Smith et al | | \prod | | | | Ve: 4P | r 2600 |
| | 6,018,317 | 01/25/00 | Dogan et a | l. | | | | | | |
| | | | · | <i>.</i> | Π | | | | | |
| | 6,018,643 | 01/25/00 | Golemon e | t al. | | | | | | ` |
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| | | U.S. | PATENT DO | CUMENTS | | | | | |
| EXAMINER : | DOCUMENT NUMBER | DATE | | NAME | CLASS | SUBCLASS | FILING IF APPRO | | |
| 00 | 6,023,203 | 02/08/00 | Parish | | | | | | |
| | 6,061,553 | 05/09/00 | Matsuoka e | et al. | 1 | 1 | | • | |
| | 6,064,865 | 05/16/00 | Kuo et al. | | | | | | |
| | 6,067,324 | 05/23/00 | Harrison | | 11 | | | | |
| | 6,108,565 | 08/22/00 | Scherzer | | | | | | · |
| | 6,131,016 | 10/10/00 | Greenstein | et al. | | | | | |
| | 6,154,661 | 11/28/00 | Goldburg | | | | RE | ECE | VED |
| | 6,185,412 | 02/06/01 | Pentikaine | n et al. | | 1. | AI | JG 3 | p 2001 |
| | 6,192,256 | 2/20/01 | Whinnett | | -{ . | | Techn | ology | center 260 |
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Patent and Trademark Office. J.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information untess it displays a valid OMB control number.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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| Filing Date | September 29, 2000 | | | | | |
| First Named Inventor | Roger Rogard | | | | | |
| Art Unit | 2663 | | | | | |
| Examiner Name | Not yet assigned | | | | | |
| Attorney Docket Number | 15685P031 | | | | | |

| | U.S. PATENT DOCUMENTS | | | | | | | | |
|-----------------------|-----------------------|---|------------|--|---|--|--|--|--|
| Examiner Initials* | Cite No.1 | Document Number Publication Date Number - Kind Code* (if known) Publication Date or Issue Date MM-DD-YYYY | | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | | | | |
| 80 | 1 | US-5615409 | 03-25-1997 | Forssén et al. | | | | | |
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| Examiner | Cite | Foreign Patent Document | | | Pages, Columns, Lines, | |
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'Applicant's unique citation designation number (optional). 'See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. *Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 'For Japanese patent documents, the indication of the year of reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

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| | | | Art Unit | 2663 |
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| | OTHER ART - NON PATENT LITERATURE DOCUMENTS | | | | | | | | |
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| Examiner Initials* | Cite No.¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | יד | | | | | | |
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| Application Number | 09/6/6,887 | | | | | |
| Filing Date | September 29, 2000 | | | | | |
| First Named Inventor | Roger Rogard | | | | | |
| Group Art Unit | 2681 | | | | | |
| Examiner Name | Not Yet Assigned | | | | | |
| Attorney Docket Number | 15685P031 | | | | | |

| | | | | U.S. PATENT DOCUMENTS | | |
|-----------------------|--------------|-----------------------|--|---|--|--|
| Examiner Initials* | Cite No.' | U.S. Patent Number | Document Kind Code ² (if known) | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| B | 1 | 5,812,090 | | Chevalier et al. | 09-22-1998 | |
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stitute for form 1449A/PTO INFORMATION DISCLOSURE

STATEMENT BY APPLICANT (use as many sheets as necessary)

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| Filing Date | September 29, 2000 | | | |
| First Named Inventor | Roger Rogard | | | |
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| m- | 1 | 4,965,732 | | Roy, III, et al. | 10-23-1990 | |
| 1 | 2 | 5,515,378 | | Roy, III, et al. | 05-07-1996 | |
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| FOREIGN PATENT DOCUMENTS | | | | | | | | | |
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Roger Rogard

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INFORMATION DISCLOSURE

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| | | | | U.S. PATENT | DOCUMENTS | | | | 1/ B |
| Examiner Initials* | Cite No.' | | ocument Kind Code [*] (if known) | Name of Patents of Clied De | | Date of Publical Cited Docum MM-DD-YY | ent | Pages, Columns, Unes, Where Relevant Passages or Relevant Figures Appear |]\ |
| 8 | 1 | 6,122,260 | | Liu et al. | | 09-19-20 | 000 | | 1 |
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| | | - | | U.S. | PATENT DOCUMENTS | | | V |
| Exam. Initials | Cite No. | Document Number | | Date | Name | Class | Sub- class | Filing Date (if appropriate) |
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FOREIGN PATENT DOCUMENTS

| Exam. Initials | Cite No. | Document Number | Date | Country | Class | Sub- class | Translation Yes No |
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| ď | 1 | EP0786914A2 | 30/Jul/97 | Еигоре | | | |
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| First Named Inventor | Roger Rogard | |] |
| Art Unit | 2663 | | |
| Examiner Name | Not yet assign | ed | |
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| | | | U.S. PATE | NT DOCUMENTS | |
|-----------------------|--------------|---|---|--|---|
| Examiner Initials* | Cite No.' | Document Number Number - Kind Code ² (if known) | Publication Date or Issue Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Retevant Passages or Relevant Figures Appear |
| 0 | 1 | US-5574977 | 11-12-1997 | Joseph et al. | |
| Y | 2 | US-5619503 | 04-08-1997 | Dent | |
| | 3 | US-5625880 | 04-29-1997 | Goldburg et al. | |
| | 4 | US-5642353 | 06-24-1997 | Roy III et al. | |
| | 5 | US-5684794 | 11-04-1997 | Lopez et al. | · |
| | 6 | US-5708971 | 01-13-1998 | Dent | |
| П | 7 | US-5870393 | 02-09-1999 | Yano et al. | |
| | 8 | US-5884178 | 03-16-1999 | Ericsson et al. | |
| | 9 | US-6037898 | 03-14-2000 | Parish et al. | |
| | 10 | US-6141567 | 10-31-2000 | Youssefmir et al. | |
| | 11 | US-6219561 | 04-17-2001 | Raleigh | |
| \vdash | 12 | US-6292664 | 09-18-2001 | Ostrup et al. | |
| V | 13 | US-6337985 | 01-08-2002 | Roux et al. | |
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| | FOREIGN PATENT DOCUMENTS | | | | | | | | | | |
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| FOREIGN PATENT DOCUMENTS | | | | | | | | | |
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Complete if Known Application Number 09/676,887 Filing Date September 29, 2000 First Named Inventor-Roger Rogard **Group Art Unit** 2681 Examiner Name Not Yet Assigned **Attomey Docket Number** 15685P031

| | | OTHER ART - NON PATENT LITERATURE DOCUMENTS | | | | |
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| Examiner Initials* | Cite No.' | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | | | | |
| 0 | 1 | Farsakh et al., "A REAL TIME DOWNLINK CHANNEL ALLOCATION SCHEME FOR AN SDMA MOBILE RADIO SYSTEM," IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, Vol. 3, 10/18/96, pgs. 1215-1220. | | | | |
| 6 | 2 | Farsakh et al., "CHANNEL ALLOCATION AND DOWNLINK BEAMFORMING IN AN SDMA MOBILE RADIO SYSTEM," PIMRC '95, Wireless: Merging onto the Information Superhighway, 6th IEEE International Symposium on Toronto, Ont., Canada, 9/27-29/95, pgs. 687-691. | | | | |
| 6 | 3 | Gerlach et al., "BASE STATION TRANSMITTER ANTENNA ARRAYS WITH MOBILE TO BASE FEEDBACK," IEEE Asilomar Conference on Signals, Systems & Computers, 1993, pgs. 1432-1436. | | | | |
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| Examiner Initials | Cite No.' | U.S. Pater Number | Kind Code ² (if known) | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
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| Examiner | Cite | | Foreign Patent Docum | | Name of Patentee or | Date of Publication of | Pages, Columns, Lines, Where Relevant | L | |
| Initiats* | No.' | Office | ' Number' | Kind Code ^s (if known) | Applicant of Cited Document | Cited Document MM-DD-YYYY | Passages or Relevant Figures Appear | T | |
| 8 | 1 | | WO 97/08849 | | WIPO | | | Ι | |
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| Sheet | 2 | of | 2 | Attorney Docket Number | 15685P031 | | |

| | | OTHER ART - NON PATENT LITERATE | JRE DOCUMENTS | |
|-----------------------|--------------|--|--|----|
| Examiner Initials* | Cite No.' | Include name of the author (in CAPITAL LETTERS), title of the anti- magazine, journal, serial, symposium, catalog, etc.), date, page(s), v country where published | volume-issue number(s), publisher, city and/or | T³ |
| p | 1 | Ottersten, B., "Array Processing for Wireless Commun Processing Workshop on Statistical Signal and Array I | | |
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| | | | | PATENT DOCUMENTS | | | |
|-------------------|----------|--------------------|-------------|---------------------------------------|-------------|--|------------------|
| Exam. Initials | No. | Document Number | Date | Name | Class | Sub- class | (if appropriate) |
| 30 | 1 | 5,553,074 | 09/03/96 | Acampora | | | |
| 1 | 2 | 5,697,066 | 12/09/97 | Acampora | | 1 | |
| | 3 | 5,732,076 | 03/24/98 | Ketseoglou et al. | | 1 | |
| | 4 | 5,748,676 | 05/05/98 | Mahany | | | |
| | 5 | 5,774,461 | 06/30/98 | Hyden et al. | | | - |
| | 6 | 5,933,421 | 08/03/99 | Alamouti et al. | | | |
| | 7 | 6,018,555 | 01/25/00 | Mahany | | | - |
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FOREIGN PATENT DOCUMENTS

| Exam Initials | Cite No. | Document Number | Date | Country | Class | Sub- class | Transl Yes | ation No |
|------------------|-------------|--------------------|-----------|---------|-------|---------------|---------------|-------------|
| 00 | 8 | WO 98/28864 | 02/Jul/98 | | | _ | | |
| 8 | 9 | WO 98/33346 | 30/Jul/98 | | | | | |
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| ~ | 10 | | | | | roadband Wireless LANs in a | |
| Ø | | | | * | COM '91, January 1991, p | • | |
| Ì | 11 | | | | AC Layer Protocol for Wis," 1997 IEEE, August 199 | reless ATM Networks in Harsh 97, pp. 410-415. | |
| | 12 | | | | Media Access Protocols for 1998, pp. 337-344. | or Use With Smart Adaptive | |
| + | 13 | | | out Multiplication 1994 IEEE, 1994, | | ltimedia Services: SDMA | |
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